

XANTHORRHOEA REFLEXA: A NEW SPECIES OF BLACKBOY.

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Caudex—thick, simple or branched, and ranging in height up to ten feet or more, the core (consisting of leaf trace bundles), with a hard, woody cone up to 18 inches in height at the base, the upper part tough and fibrous but not woody, and surrounded by the persistent leaf bases.

Leaves—quadrangular, rather brittle, but not snapping off as do those of *X. Preissii*, passing into a curved, flattened base $2\frac{1}{2}$ to 3 inches long.

Base of Leaves—persistent, $3\frac{1}{2}$ to $4\frac{1}{2}$ lines broad, $2\frac{1}{2}$ to $3\frac{1}{2}$ inches long, curved and turning downwards at the tips, hence the specific name.

Gum.—covering the leaf bases, dark brown or black, from the effect of bush fires, and giving to the leaf bases a typical black appearance. In plants unaffected by fires the colour is not much darker than that of *Preissii*.

Scape—as in *X. Preissii* about 1 inch thick when mature and up to about 6 feet long, of which more than half is occupied by the spike.

Bracts—both outer and subtending ovate-oblong or lanceolate, prominent only in the young spike.

Bracteoles—linear—spathulate, nearly as long as the perianth.

Perianth Segments— $4\frac{1}{2}$ lines long, the outer thin, rigid, oblong, and concave, the inner broader ($1\frac{1}{2}$ to 2 lines), with a short spreading membranous apex.

Stamens and Capsule—as in *X. Preissii*.

Localities—Blackboy Hill; Wedin (East of Narrogin); Popan-yinning, Capel. Not very common in the Perth district but common further south.

The new species comes very close to *X. Preissii*, the most common species of blackboy, but differs in the caudex, persistent leaf bases, leaves, and perianth segments. An important difference is that of the gums exuded by the two forms. The outer layer of the caudex, which consist of the persistent gum-impregnated leaf

bases, is widely used for fuel purposes, and that of the new species is much preferable to that of *X. Preissii* as it is more inflammable. Analyses of the gums have not yet been published, so the exact nature of the chemical difference of the two species is still unknown. Chemical composition is as important as morphology in determining many species, particularly in the case of the Eucalypts, and the part played by it in evolution is generally lost sight of.

Though the leaf bases of *X. reflexa* burn better than those of *X. Preissii*, it is to be noted that bush fires do not have the same effect on the plants in the field. The new species resists fire fairly well, whereas the leaf base layer of the common blackboy is frequently deeply channelled by it.

The principal differences between the two may be tabulated as follow:—

—			<i>X. Preissii.</i>	<i>X. reflexa.</i>
Inner perianth seg-ments			Slightly more than 1 line broad	1½ to 2 lines broad.
Leaves	...	...	Generally triangular or diamond shape in section	Quadrangular.
Leaf bases	...	...	Flat and roughly horizontal, about 1 inch broad and varying in length from 2 inches	Curved and reflexed making an angle of 45° with the caudex, 3½ to 4½ lines broad and 2½ to 3½ inches long.
Caudex	...	...	Woody cone at the base absent or small	Woody cone well developed.
Time of flowering	...	...	August to November in the hills around Perth	August to October round Perth.
Gum covering leaf-bases			Brown	Black.

On account of the close resemblance of the two there is no common distinguishing name for the new species, and that of Reflexed Blackboy is suggested.